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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/818,600 | 03/28/2001 | Kiyohide Satoh | 2355.12112 | 1899 |

5514 7590 12/31/2003

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| EXAMINER |
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LAU, TUNG S

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| ART UNIT | PAPER NUMBER |
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2863

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/818,600

Applicant(s)

SATO ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8,9,14,15,17,21,23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,9,14,15,17,21,23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 21, 2, 3, 4, 5, 6, 8, 9, 14, 15, 17, 23, 25, 26, 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Sundareswaran et al. (U.S. Patent 6,330,356).

Regarding claim 1:

Sundareswaran discloses an information processing calibration information needed to measure the position and/or orientation of a measuring object based on the output values of a position and/or orientation sensor comprising: an a real image input unit which is mounted on the measuring object (Col. 4, Lines 5-36, abstract); Adapted to input a real image (abstract); a virtual image generation unit adapted to generate a virtual image of indices using geometry information of the indices to be captured by said real image input unit (Col. 4, Lines 5-36). And a predetermined position and/or orientation of said measuring object; a position and/or orientation sensor mounted directly or indirectly on the measuring object

(Col. 4, Lines 5-36), an input unit adapted to input a user's instruction indicating a match between a position and/or orientation which changes according to movement of a mixed reality display device of the indices on the real image input by said real image input unit and a position and/or orientation of the indices on the virtual image generated by said virtual image generation unit an acquisition unit adapted to acquire the output values from the position and/or orientation sensor according to the input by said input unit (Col. 4, Lines 5-36, fig. 1, unit 30); and an operation unit adapted to derive the calibration information, based on the predetermined position and/or ' orientation and the output values of the position and/or orientation sensor acquired by said acquisition unit (Col. 4, Lines 5-36, fig. 3).

Regarding claim 21:

Sundareswaran discloses an information processing method that derives the calibration information needed to measure the position and/or orientation of a measuring object based on the output values of a position and/or ' orientation sensor comprising the steps of: entering a real image derived from a real image input unit (Col. 4, Lines 5-36, abstract); generating a virtual image of indices having a predetermined position and/or orientation; inputting a position and/or orientation information from the sensor when a position and/or orientation of the indices included in the real image matches a position and/or orientation of a virtual image of the indices and generating calibration information from the

inputted position and/or orientation information and predetermined position and/or orientation of the indices (Col. 4, Lines 5-36, abstract, fig. 1, 3).

Regarding claims 2, 3, 4, 5, 6, 8, 9, 14, 15, 17, 23, 25, 26, 27:

Sundareswaran also disclose position and/or orientation sensor that represent the position and/or orientation of said sensor itself in the sensor coordinate system; and said calibration information contains first coordinate transformation information for converting the position and/or orientation of said sensor itself in the sensor coordinate system into the position and/or orientation of said measuring object in the sensor coordinate system and second coordinate transformation information for converting the position and/or orientation in the sensor coordinate system into the position and/or orientation in a global coordinate system (fig. 8, 9, 10); a guiding mean for guiding the object position and orientation (fig. 9, unit 256); determining the coordinate transformation position information (fig. 9, unit 254, 256); determining pitch-angle and roll angle information among the coordinates and yaw angle information (fig. 4-5b, Col. 7, Lines 16-65); orientation of the sensor (Col. 4, Lines 5-37, fig 1, unit 20, fig. 4-5b); display of the superimpose images (Col. 5-6, Lines 38-5); real image input captures a real space viewpoint (abstract, Col. 4, Lines 5-37); geometry information contains shape information (fig. 8), indices of wire frame (Col. 5-6, Lines 38-5); switching mean of the mixed reality and deviation mode that derive calibration information (fig. 10, unit 36, 23, 260, 264, 266); store program code

for executing information processing (fig. 1, unit 30); chaining position match by changing orientation image unit (fig. 1, unit 30, fig. 8, Col. 4, Lines 5-36); shows initial state of the object (fig. 7, unit 204, fig. 8-9).

Response to Arguments

2. Applicant's arguments with respect to claims 1, 21, 2, 3, 4, 5, 6, 8, 9, 14, 15, 17, 23, 25, 26, 27 have been considered but are moot in view of the new ground(s) of rejection. However, applicant's arguments filed 11/7/2003 have been fully considered but they are not persuasive.

A. Applicant argues that the prior art does not show 'the input of a real image input unit and position orientation indices by virtual image generation'.

Sundareswaran discloses show 'the input of a real image input unit and position orientation indices by virtual image generation' in Col. 4, Lines 5-37.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory

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action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TC2800 FAX Telephone Numbers: 703-872-9306

TC2800 Customer Service FAX - (703) 872-9317

TL

December 4, 2003


John Barlow
Primary Patent Examiner
Technology Center 2800